DOCUMENT RESUME

ED 186 128 PS 011 415

AUTHOR Bartlett, Elsa Jaffe
TITLE Children's Production and Evaluation of Referring Expressions in Written Narratives.
PUB DATE Mar 79
NOTE 13p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (San Francisco, California, March 15-18, 1979).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Ambiguity; Communication Problems; Comparative Analysis; *Context Clues; *Editing; *Elementary School Students; Error Patterns; Grade 4; *Language Processing; Language Proficiency; Pronouns; Structural Analysis (Linguistics); *Writing Skills
IDENTIFIERS *Referents (Linguistics)

ABSTRACT

This study explores how children indicate that a new character or object is being introduced into a written text and how they tell their readers that a particular word refers to something which has appeared in the text before. In particular, the study focuses on information represented by noun phrases in written narrative texts. To investigate how some children produced referential ambiguities in such texts while others did not, 32 fourth graders, who were rated as either above or below average in writing ability and all of whom read at grade level, wrote two stories and participated in a short ambiguity detection and editing task. Stories were elicited under simple context and complex context conditions. Context effects were observed for the below-average writers. No statistically significant differences between above- and below-average writers were found on the editing task. Additionally, while no differences were found in the distribution of linguistic devices in the two groups, children were found to structure their stories differently. Above-average writers produced more than three times as many references to grouped characters as did below-average writers. Results suggest that skilled and unskilled writers differed in their strategies for constructing narrative texts. (Author/RH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

Children's production and evaluation of referring expressions in written narratives

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Elsa Jaffe Bartlett
The Rockefeller University

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Elsa Bartlett
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ED186128

Paper presented at biennial meeting, Society for Research in Child Development, San Francisco, March, 1979.

The research I want to talk about today concerns children's ability to produce coherent referring expressions in written texts. What I want to focus on is the question of how young writers tell their readers about referential organization: How they indicate that a new element - a new character or an object - is being introduced into a text and also how they tell their readers that a particular word refers to something which has appeared in the text before.

English has many devices for introducing and making anaphoric reference back to elements in a text. A few of these are illustrated in Table 1. As you can see, there are three passages - each with two sentences. In each first sentence, the underlined words introduce some element and in each second sentence, the underlined words refer to some element which has been mentioned before. The examples illustrate how several different devices can function to give us this sort of referential information. In the first text, for example, the indefinite article functions to tell us that this particular old woman has not been introduced before, while the definite article indicates that the writer now has in mind a

PS011415

particular old woman and invites the reader to search for information about her in some previous part of the discourse. Similarly, the pronouns in the third text tell the reader to search for some previously mentioned male person and some particular inanimate object.

These examples suffice to indicate that English has a rich set of devices for signaling referential organization. The question I want to focus on today is how the young writer learns to use these devices to communicate unambiguous information about the nature of that organization. In particular I will be focusing on the information represented by noun phrases in written narrative text.

We know suprisingly little about how this develops in children. We know from Piaget's early studies of spoken language that even children as old as eight or nine years have difficulty using these devices unambiguously and of course these early observations have now been extended in dozens of more recent studies. But despite the current educational interest in children's writing, there have been very few attempts to extend this work to the development of referring expressions in the written domain.

In an attempt to fill this gap, about three years ago Sylvia Scribner and I began to analyze the referring expressions in written stories produced by about 30 children in grades three through six. The results of that work can be very quickly summarized. Although we found that all children produced successful referring expressions most of the time, we also found that more than two-thirds of our subjects were producing at least one referential ambiguity per text. Furthermore, when we examined the stories, we

found that the errors were not randomly distributed, but seemed to occur only in certain contexts.

What this pattern of results seemed to indicate was that all our subjects had a pretty good grasp of the basic semantic and syntactic properties of the various referring devices - particularly the articles and pronouns. What seemed to be lacking, however, was some appreciation of the effects of context on their use. Particularly difficult were those contexts in which the writers had to differentiate between two characters of the same age and same sex. An example of such a context appears in Table 2, along with some typical attempts at differentiation. As we can see, the anaphoric referring expressions are all appropriate in terms of their syntax and semantics. However, the pronoun and the vague undifferentiated definite noun phrase in the first and second texts both fail on pragmatic grounds - for in this particular context they cannot function to pick out a single, specific referent and they are therefore ambiguous.

It was clear from our data that many children made these errors. Furthermore, the proportion of such errors was fairly consistent across the grades. (If anything, in fact, it increased as the children got older.) What was less clear, however, was some account of the underlying process. In particular, we had no way of understanding how some children came to produce these ambiguities while others in the same age range did not.

Several possibilities occurred to us. For example, in studies of referential ambiguity in the spoken language of younger children, it has been suggested that faulty referencing stems from a failure to evaluate candidate messages. Applying this hypothesis

to the production of written text, it may be the case that more skilled writers are simply more sensitive to ambiguity and better able to detect it. If that is the case, then we would expect that the more skilled writers would also be better at detecting ambbiguities in various kinds of editing tasks.

It is also possible that skilled and unskilled writers differ in terms of the language with which they accomplish their referencing. It is clear, for example, that pronouns and certain vague, undifferentiated definite noun phrases will simply not function to pick out referents in certain contexts. Maybe the more skilled writers are successful because they tend to use these devices less frequently overall. But it is also possible that the skilled and unskilled writers differ not so much in terms of their language, but more in terms of their story structure. It is possible, for example, that the more skilled writers structure their stories in a way which enables them to avoid some of the more difficult referential contexts altogether.

The present study is intended to evaluate some of these hypotheses.

The data come from 32 fourth graders enrolled in a New York City public school. To insure a wide range of writing skill, half the sample was chosen from a group of children designated by their teachers as being above average in writing and half were taken from below average groups. To insure that differences in writing were not associated with gross differences in reading skill, children in both groups were matched for reading achievement, with all children in the sample reading on grade level or above.

Each subject wrote two stories and participated in a short editing task.

The stories were elicited under two conditions: In the simple context condition, they were asked to write about two characters whose age and sex were not specified. To elicit these stories, the experimenter simply said, "I want you to write a story about two people who meet on a dark corner one night. I want you to tell me what happens."

Stories were also elicited in a complex context condition, designed to insure that all children produce at least some referring expressions in the type of context which proved to be so difficult for children in the earlier study. In this condition, children wrote stories about a four-panel cartoon in which three same age, same sex characters interacted.

To assess children's ability to evaluate referring expressions and detect ambiguities, they also participated in an editing task. There were 8 short passages of between 40 and 50 words, each containing one error. Four involved ambiguities due to missing subjects or predicates and four involved ambiguous noun phrases. Of these, two involved ambiguous pronouns and two, ambiguous definite noun phrases. Examples appear in Table 3.

Results

The first analysis concerns the effects of context on referential ambiguity: Did children produce a greater number of ambiguous referring expressions in the complex context condition ? It turns out that context effects were indeed observed, but only for the below-average writers. These results are best illustrated by data which describe the number of subjects who produced at least

one ambiguous noun phrase per text. These are presented in Table 4. As we can see, while only four of the below-average writers produced ambiguous noun phrases in the simple story context, thirteen did so in the complex context. (That's about 80% of the sample.) By contrast, only three of the above-average writers produced ambiguities in each condition.

When we examine the actual noun phrases, it turns out that virtually all of the ambiguities produced by both the skilled and unskilled writers occured in contexts where the writers were attempting to differentiate between two characters of the same sex, a finding which replicated the results of Bartlett and Scribner. We should also note that most of the ambiguities involved the use of pronouns: If an ambiguity occured, it seemed to involve a pronoun about 80 percent of the time.

The next point has to do with the editing task. I had hypothesized that children who produced ambiguous referring expressions would also have difficulty detecting similar ambiguities on an editing task. But this did not turn out to be the case. When we compare the performance of above- and below-average writers on the editing task, we find no statistically significant differences. The mean number of correct responses for the strong writers (out of a possible 8) was 4.3 while for the weak writers it was 3.7. Nor was the correlation between the editing scores and the number of ambiguities produced by individual children significant. (The Pearson r was .10.)

If the production of referential ambiguity were related to some underlying difficulty in detecting ambiguity, then we might expect the less skilled writers to have particular difficulty

detecting ambiguity in precisely those forms which were ambiguously produced. Pronouns accounted for most of the ambiguity in children's texts, but when we look at the editing, it turns out that problems which involved ambiguous pronouns were not inordinately difficult. And in general, given that a child produced an ambiguous pronoun in a story, that child was about as likely to solve the pronoun editing problems as to make an error.

What these results suggest is that editing may tap into skills which are somewhat different from those used in text production. It is possible, for example, that the ability to detect ambiguity is more closely related to text comprehension skills than to production, a hypothesis which receives some support from the fact that children in the two groups had comparable reading

Let us turn now to the question of whether there were differences in the language with which skilled and unskilled writers accomplished their referencing. I had hypothesized that the less skilled writers would tend to use pronouns and vague definite noun phrases more often in all of their referencing, but this did not turn out to be the case. In fact, the proportion of referring expressions constructed with each type of linguistic device was remarkably similar across the two groups. Pronouns accounted for 54% of all anaphoric referencing produced by the above-average group and 55% of the referencing produced by the below-average group. Similarly, definite noun phrases accounted for 21% of the referencing of the above-average group and 19% of the below average group. Nor were there any other differences in the language produced: The stories had about the same number of words; about

the same number of elements were intorduced by the noun phrases in the texts; and there were about the same number of anaphoric referring expressions (see Table 5). In short, I could find no differences in the distribution of linguistic devices in the two groups.

Where differences did seem to occur was in the way that children structured the elements in their stories. I had hypothesized that the skilled writers might use structures which allowed them to avoid some of the more difficult contexts altogether. For example, in the complex context condition, when writing about the three same age, same sex characters, a clever child could hit on the strategy of grouping two of them together under a single label, calling them "two boys" or "two friends." One advantage of doing this is that it provides a context in which the pronouns will now function to make a successful differentiation. Thus, for example, if characters are referred to as "a boy" and "his two friends" - then the pronouns "he" and "they" can be used to differentiate between them.

When we recall that the majority of children's anaphoric referring expressions consisted of pronouns - then the advantage of this strategy becomes clear - for in using it the clever writer is able to use his or her preferred type of wording while avoiding the problems of ambiguity.

The hypothesis is most appropriately tested by examining data from the complex context condition - since in that condition all children were writing about events in the same four-panel cartoon.

And when we examine the structures of these stories, we find considerable support for the hypothesis. Although children could chose to group several characters together or treat them as

singletons, the above-average writers produced more than three times as many references to grouped characters as did the below average writers. Moreover, these groupings were more likely to occur in the first or second sentence and be maintained over longer stretches of discourse.

These results are particularly interesting when compared with results of the editing task and the analysis of the distribution of linguistic devices. Taken together, the data suggest that the skilled and unskilled writers differed - not so much in their ability to detect ambiguity or in their language - but rather in their strategies for constructing narrative texts.

Table 1

Text One

One morning an old woman arrived in the town. The old woman was carrying a heavy sack.

Text Two

Susan has a son. The boy is five.

Text Three

John bought a camera last week. Now he's having trouble with it.

Table 2

Text One

Two boys went into a store. He got some soap.

Text Two

Two boys went into a store. The boy got some soap.

Text Three

Two boys went into a store. One boy got some soap.

Text Four

Two boys went into a store. Their names were Jim and John. John got some soap.

Table 3

Example of ambiguous pronoun:

Once there was a policeman. His job was to chase robbers. One day he got into a police can and drove to the city to catch a theif. They had a big fight. He was killed.

Example of vague noun phrase:

One day a man left his house. Another man was standing outside. The man took out a letter and gave it to him. They talked for a while and then they got into a car. They were both policemen.

Table 4

Number of Subjects Producing at Least One Ambiguous Noun Phrase

	type of test	
	simple	complex
Subject type		
Above-average writers (N=16)	3	3
Below-average writers (N=16)	4	13

Table 5

Distribution of new and old information in children's stories

	Simple Context		Complex Context	
	above-average	below-average	above-average	below-average
$\bar{X}$ words	121.2	103.6	111.3	87.5
$\bar{X}$ new elements introduced by NPs	15.6	13.1	11.6	10.6
$\bar{X}$ anaphoric NPs	24.9	20.4	22.5	20.5